

WHAT IS CLAIMED IS:

1. An apparatus for setting different gating rates for an uplink and a downlink in a CDMA communication system, comprising:

5 a mobile station having a gated transmission controller for controlling transmission of an uplink dedicated control channel signal in a gated mode according to an uplink gating rate; and

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a base station having a gated transmission controller for controlling transmission of a downlink dedicated control channel signal in a gated mode according to a downlink gating rate different from the uplink gating rate.

2. The apparatus as claimed in claim 1, wherein the gated transmission controller of the mobile station transmits the uplink dedicated control channel signal in the gated mode at a fixed gating rate on the downlink and at a changed gating rate on the uplink.

3. The apparatus as claimed in claim 1, wherein the gated transmission controller of the mobile station transmits the uplink dedicated control channel signal in the gated mode at a fixed gating rate on the uplink and at a changed gating rate on the downlink.

4. The apparatus as claimed in claim 2, wherein the gated transmission controller of the base station transmits the downlink dedicated control channel signal in the gated mode at a fixed gating rate on the downlink and at a changed gating rate on the uplink.

5. The apparatus as claimed in claim 3, wherein the gated transmission controller of the base station transmits the downlink dedicated control channel signal in

the gated mode at a fixed gating rate on the downlink and at a changed gating rate on the uplink.

6. The apparatus as claimed in claim 2, wherein the gated transmission controller of the base station transmits the downlink dedicated control channel signal in the gated mode at a fixed gating rate on the uplink and at a changed gating rate on the downlink.

7. The apparatus as claimed in claim 3, wherein the gated transmission controller of the base station transmits the downlink dedicated control channel signal in the gated mode at a fixed gating rate on the uplink and at a changed gating rate on the downlink.

8. A method of setting different gating rates for a downlink and an uplink in a CDMA communication system, comprising:

transmitting an uplink dedicated control channel signal in a gated mode according to an uplink gating rate when there is no data to transmit for a predetermined time; and

transmitting a downlink dedicated control channel signal in a gated mode according to a downlink gating rate different from the uplink gating rate.

9. The method as claimed in claim 8, wherein the uplink dedicated control signal is transmitted in the gated mode at a fixed gating rate on the downlink and at a changed gating rate on the uplink in the uplink dedicated control channel signal transmitting step.

10. The method as claimed in claim 8, wherein the uplink dedicated control signal is transmitted in the gated mode at a fixed gating rate on the uplink and at a

changed gating rate on the downlink in the uplink dedicated control channel signal transmitting step.

11. The method as claimed in claim 9, wherein the gating rate of the
5 downlink is 1.

12. The method as claimed in claim 9, wherein the gating rate of the
downlink is 1/2.

13. The method as claimed in claim 10, wherein the gating rate of the uplink
is 1.

14. The method as claimed in claim 10, wherein the gating rate of the uplink
is 1/2.

15. The method as claimed in claim 9, wherein the downlink dedicated
control signal is transmitted in the gated mode at a fixed gating rate on the downlink and
at a changed gating rate on the uplink in the downlink dedicated control channel signal
transmitting step.

16. The method as claimed in claim 10, wherein the downlink dedicated
control signal is transmitted in the gated mode at a fixed gating rate on the downlink and
at a changed gating rate on the uplink in the downlink dedicated control channel signal
transmitting step.

17. The method as claimed in claim 9, wherein the downlink dedicated
control signal is transmitted in the gated mode at a fixed gating rate on the uplink and at a
changed gating rate on the downlink in the downlink dedicated control channel signal

transmitting step.

18. The method as claimed in claim 10, wherein the downlink dedicated control signal is transmitted in the gated mode at a fixed gating rate on the uplink and at a changed gating rate on the downlink in the downlink dedicated control channel signal transmitting step.

19. The method as claimed in claim 15, wherein the gating rate of the downlink is 1.

20. The method as claimed in claim 15, wherein the gating rate of the downlink is 1/2.

21. The method as claimed in claim 17, wherein the gating rate of the uplink is 1.

22. The method as claimed in claim 17, wherein the gating rate of the uplink is 1/2.

23. A CDMA communication system comprising:
a mobile station for transmitting a reverse pilot signal at a reverse gating rate different from a forward gating rate in a gated mode in a control hold state; and
a base station for transmitting a reverse power control signal at the forward gating rate different from the forward gating rate in a gated mode.

24. The CDMA communication system as claimed 23, wherein the mobile station transmits the reverse pilot channel signal at the reverse gating rate in the gated mode when a reverse dedicated data channel is not activated.

25. The CDMA communication system as claimed in claim 24, wherein the reverse pilot channel signal includes a reverse pilot and forward power control information.

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26. The CDMA communication system as claimed in claim 23, wherein the reverse gating rate and the forward gating rate are set by a network.

~~27.~~ A channel transmission method for a mobile station in a CDMA communication system, comprising the steps of:

continuously transmitting a reverse pilot channel signal when a reverse data channel is activated; and

transmitting the reverse pilot channel signal at a reverse gating rate different from a forward gating rate in a gated mode when the reverse data channel has no data to transmit for a predetermined time.

28. The channel transmission method as claimed in claim 27, wherein the reverse pilot channel signal includes a reverse pilot and forward power control information.

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29. The channel transmission method as claimed in claim 27, wherein the reverse gating rate is set by a network.

~~30.~~ A channel transmission method for a base station in a CDMA communication system, comprising the steps of:

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transmitting a reverse link power control bit in every power control group when a forward data channel is activated; and

transmitting the reverse link power control bit at a forward gating rate different

from a reverse gating rate in a gated mode when the forward data channel has no data to transmit for a predetermined time.

31. A method of transmitting channels in a control hold state in a CDMA communication system, comprising the steps of:

gating a reverse pilot and forward power control information on the reverse channel by a mobile station;

gating a forward channel signal at a forward gating pattern different from the reverse gating pattern ;

controlling reverse transmission power according to the reverse power control information received on the forward channel by the mobile station;

measuring the strength of a signal received on the forward channel, generating forward power control information at the reverse gating pattern, and transmitting the forward power control information on the reverse channel by the mobile station; and

controlling forward transmission power according to the forward power control information received on the reverse channel by the base station.

32. The method of claim 31, wherein the reverse gating pattern and the forward gating pattern are set to be different by a network.

33. The method as claimed in claim 32, wherein the reverse gating pattern and the forward gating pattern are set to be different for each user to minimize a power control delay or balance a forward power control delay with a reverse power control delay.

34. A gating method for intermittently transmitting a power control signal for at least power control according to a gating rate in one frame on a dedicated control channel at an area where there is no message transmission in both a forward link on

which a base station transmits signals to a mobile station and a reverse link on which a mobile station transmits signals to a base station, wherein the gating rate in the one frame in the forward link is different from the gating rate in the one frame in the reverse link.

5 35. The method of claim 34, wherein the reverse dedicated control channel signal in the gated mode is transmitted at a fixed gating rate on the forward link and at a changed gating rate on the reverse link.

36. The method of claim 34, wherein the reverse dedicated control channel signal in the gated mode is transmitted at a fixed gating rate on the reverse link and at a changed gating rate on the forward link.

37. A gating method for intermittently transmitting a power control signal for at least power control according to a gating rate in one frame on a channel for a power control at an area where there is no message transmission in both a downlink for transmitting signals from a base station to a mobile station and an uplink for transmitting signals from the mobile station to the base station, wherein the gating rate in the one frame in the downlink is different from the gating rate in the one frame in the uplink.

20 38. The method of claim 37, wherein the signals of a channel for a power control in the gated mode at a fixed gating rate on the downlink and at a changed gating rate on the uplink.

39. The method of claim 37, wherein the signals of a channel for a power
25 control in the gated mode at a fixed gating rate on the uplink and at a changed gating rate on the downlink.